



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,544	11/28/2001	Masaki Yamamoto	9281-4238	2310
7590	06/18/2004		EXAMINER	
Brinks Hofer Gilson & Lione P.O. Box 10395 Chicago, IL 60610			TRAN, TRANG U	
			ART UNIT	PAPER NUMBER
			2614	
DATE MAILED: 06/18/2004				

5

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/995,544	YAMAMOTO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Trang U. Tran	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 November 2001.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 is/are rejected.
- 7) Claim(s) 2-5 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Fig. 4 discloses in the Specification of pages 1-3) in view of Yamamoto (US Patent No. 5,978,663).

In considering claim 1, the admitted prior art (Fig. 4 discloses in the Specification of pages 1-3) discloses all the claimed subject matter, note 1) the claimed a television tuner comprising: an input terminal through which one of UHF band and VHF band television signals are inputted is met by the television tuner which has a UHF tuner and a VHF tuner, the UHF band television signals and VHF band television signals are inputted from an antenna (not show) through an input terminal 31 (Fig. 4, page 1, lines 12-18), 2) the claimed a UHF tuner which receives the UHF band television signals is met by the UHF tuner 40 (Fig. 4, page 1, line 19 to page 2, line 9), 3) the claimed a VHF tuner which is provided together with the UHF tuner and receives at least the VHF band television signals is met by the VHF tuner 50 (Fig. 4, page 2, lines 10-12), 4) the claimed the UHF tuner comprising: a UHF tuning circuit having a varactor diode and first and second inductance elements serially interconnected and connected in parallel with the varactor diode, where the varactor diode varies a tuning frequency within a

prescribed frequency range in the UHF band is met by the UHF tuner 40 which has a varactor diode 41a and a first and second inductance elements 41b and 41c which are serially interconnected and connected in parallel with the varactor diode (Fig. 4, page 1, line 19 to page 2, line 9), and 5) the claimed an impedance circuit serially inserted between an input terminal and a junction of the first and second inductance elements is met by the coupling capacitor 42 which is serially inserted between an input terminal 31 and a junction of the first and second inductance elements 41b and 41c and the impedance of the coupling capacitor 42 configuration varies depending on the frequency, even when the tuning impedance R (resistance) is constant, the bandwidth B broadens as the frequency increases (Figs. 4 and 5, page 2, line 13 to page 3, line 25).

However, the admitted prior art (Fig. 4 discloses in the Specification of pages 1-3) explicitly does not disclose the claimed where the impedance of the impedance circuit increases with increasing frequency in the prescribed frequency range.

Yamamoto teaches that in Fig. 4, an input terminal 2 of an antenna tuning circuit 1 is connected through a serial matching coil 3 to a preceding circuit (not show), for example, an antenna filter (attenuating an intermediate frequency band), this matching coil 3 matches the antenna tuning circuit 1 with the antenna filter being the preceding circuit at the reception of a high band (Fig. 4, col. 1, lines 9-64).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the matching coil as taught by Yamamoto into the admitted prior art's system in order to match the frequency of the antenna tuning circuit with the antenna filter or the like being the preceding circuit at the reception of a high

Art Unit: 2614

band. It is noted that the impedance of the coil (conductor) proportional with the frequency, therefore, the impedance of the coil (conductor) increases with increasing frequency in the prescribed frequency range.

***Allowable Subject Matter***

3. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato et al. (US Patent No. 6,392,715 B1) disclose UHF/VHF tuner.

Ohira (US Patent No. 6,342,928 B1) discloses receiver having a tuning circuit with a selectable input.

Wink (US Patent No. 6,307,600 B1) discloses tuning with diode detector.

Aoki et al (US Patent No. 4,596,044) disclose UHF-VHF combination tuner.

Hietala et al. (US Patent No. 4,921,465) disclose varactor tuned UHF RF signal input circuit.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (703) 305-0090. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TRANG TRAN  
PATENT EXAMINER

TT  
May 29, 2004